IN THE CLAIMS

Please replace the claims as filed with the claims set forth below.

1. (previously presented) An optical sensor, comprising a detection module, which detection module comprises an organic light emitting diode (1) and an organic detection photodiode (2, 2a) for measuring emitted light which during the use of the sensor reaches the photodiode via a sample holder.

2. (currently amended) The ~~An~~ optical sensor according to claim 1, wherein the photodiode is a photovoltaic cell.

3. (currently amended) The ~~An~~ optical sensor according to claim 1 ~~or 2~~, wherein the sensor comprises an organic reference photodiode (2, 2b) for measuring a reference signal coming from said light emitting diode of the detection module or from a second light emitting diode.

4. (currently amended) The ~~An~~ optical sensor according to claim 3, wherein the reference diode forms part of a reference module, which reference module optionally further comprises a blank holder.

5. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, wherein the organic light emitting diode, the organic detection photodiode and the sample holder are situated on or in a carrier material in one piece.

6. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, wherein the sensor is of the transmissive or of the reflective type.

7. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, wherein the light emitting diode and the photodiode in the detection module and optionally in the reference module are connected with each other through a plastic waveguide (5).

8. (currently amended) The ~~An~~ optical sensor according to claim 7, wherein at least a part of the waveguide (5) has a trapezoidal shape with a top side (a), a base side (b) and two oblique sides (c), a sample holder (3) is situated at the top side (a), and the light emitting diode and the photodiode are situated on opposite sides of the sample holder (3) on the base side (b).

9. (currently amended) The ~~An~~ optical sensor according to claim 8, wherein the top side (a) and the base side (b) are at least substantially parallel to each other.

10. (currently amended) The ~~An~~ optical sensor according to ~~any one of~~ claims 8 ~~or~~ ~~9~~, wherein at least one of the oblique sides of the plastic waveguide is provided with a reflecting layer.

11. (currently amended) The ~~An~~ optical sensor according to ~~any one of~~ claims 8-~~10~~, wherein the angle between the base side and at least one oblique side is 10-70°.

12. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 4, wherein the detection module, and ~~if present~~ the reference module, is situated on or is embedded in a plastic carrier material which is provided with an electronic circuit.

13. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, wherein the light emitting diode is a polymeric light emitting diode, ~~preferably selected from the group consisting of diodes~~ having in the photoactive layer as electroluminescent compound a polymer selected from ~~the~~ a group consisting of polyarylene compounds, poly(paraphenylene vinylene) compounds, polyfluorene compounds, polyacetylene compounds, polythiophene compounds, polypyrroles, polyanilines, including derivatives of said polymers, copolymers of said polymers and said polymers provided with a dye.

14. (currently amended) The ~~An~~ optical sensor according to ~~any one of the~~

~~preceding~~ claims 3, wherein one of the detection photodiode ~~and/or~~ and the reference photodiode is a polymeric photodiode, preferably a photodiode having in the photoactive layer a polymer selected from the group consisting of polyarylene compounds, poly(paraphenylene vinylene) compounds, polyfluorene compounds, polyacetylene compounds, polythiophene compounds, polypyrroles, polyanilines, including derivatives of said polymers, copolymers of said polymers and said polymers provided with a dye.

15. (currently amended) The ~~An~~ optical sensor according to ~~any one of~~ claims 8-~~14~~, wherein the waveguide ~~consists~~ comprises at least substantially ~~of~~ one or more plastics selected from ~~the~~ a group consisting of polycarbonates (e.g. polymethylmethacrylate perspex), cyclic olefinic polymers (e.g. Zeonex®, Topas), polymethyl pentenes (e.g. TPX™), polymethyl¬methacrylates (PMMA), polystyrenes (PS), polyamides, polyvinyl chlorides, polyethyl¬ terephthalates, polypropylenes, styrene butadiene styrene copolymers, cellulose polymers, polyethylenes and polynorbornenes.

16. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, wherein the sample holder contains an active layer of which an optical property, preferably the refractive index, the UV-VIS absorption, the fluorescence or the IR absorption, changes when the active layer is in contact with a component to be measured.

17. (currently amended) The ~~An~~ optical sensor according to claim 16, wherein the active layer is selected from the group consisting of ion exchangers, ion-selective permeable membranes and gas-selective permeable membranes.

18. (currently amended) The ~~An~~ optical sensor according to claim 16 ~~or 17~~, wherein the optical property of the active layer changes as a result of the presence of a component selected from the group consisting of alcohols, in particular ethanol, carbon dioxide, ammonia, oxygen and water.

19. (currently amended) The ~~An~~ optical sensor according to ~~any one of the preceding~~ claims 1, ~~which~~ comprised ~~consists at least~~ substantially of plastic.

20. (currently amended) An array of optical sensors each comprising a detection module, which detection module comprises an organic light emitting diode (1) and an organic detection photodiode (2, 2a) for measuring emitted light which during the use of the sensor reaches the photodiode via a sample holder according to ~~any one of the preceding~~ claims 1.

21. (currently amended) A ~~The~~ method for manufacturing an optical sensor comprising:

providing ~~according to any one of the preceding claims, wherein~~ a detection module ~~is~~ comprised of ~~composed from~~ an organic light emitting diode (1)~~,~~; and

associating the detection module with an organic detection photodiode (2)~~,~~ ~~optionally a polymeric sample holder (3) and optionally a polymeric waveguide (5).~~

22. (currently amended) The ~~A~~ method for manufacturing an optical sensor according to claim 21, further comprising:

associating ~~wherein~~ a reference module ~~is~~ composed from an organic light emitting diode (1), with the optical sensor; and

associating an organic reference photodiode (2) with the sensor.~~, optionally a waveguide (5) and optionally a polymeric blank holder (6).~~

23. (currently amended) The ~~A~~ method according to claim 21 ~~or 22~~, wherein one of the light emitting diode (1) ~~and/or~~ and the photodiode (2, 2a, 2b) is manufactured by means of injection molding, printing, dip coating, vacuum deposition ~~and/~~or spin coating.

24. (currently amended) The ~~A~~ method according to ~~any one of~~ claims 21~~-23~~, wherein the diodes are manufactured on at least one of a surface of the waveguide, ~~or~~ a surface of a carrier material for the detection module, an electronic circuit and ~~optionally~~ the reference module.

25. (currently amended) The ~~A~~ method according to ~~any one of~~ claims 21~~-24~~, wherein the waveguide is manufactured by means of injection molding or extrusion.

26. (currently amended) The ~~A~~ method according to ~~any one of~~ claims 21~~-25~~, wherein the detection module is built up integrally.

27. (currently amended) The ~~A~~ method according to ~~any one of~~ claims 21~~-26~~, wherein the light emitting diode~~,~~ and the detection photodiode ~~and the sample holder~~ are provided in association with ~~on, or in,~~ one carrier material and the carrier material is then folded.

28. (currently amended) The ~~A~~ method according to ~~any one of~~ claims 21~~-27~~, wherein the sensor is provided with one of a plastic ~~and/or~~ and metal covering layer, and ~~with the proviso that~~ the sample holder ~~and, if present, the blank holder,~~ remains at least substantially free of the covering layer.